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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,187	02/19/2002	Shunpei Yamazaki	SEL 304	5420

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COOK, ALEX, MCFARRON, MANZO,
CUMMINGS & MEHLER, LTD.
Suite 2850
200 West Adams St.
Chicago, IL 60606

EXAMINER

ROY, SIKHA

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/078,187	YAMAZAKI ET AL.	
	Examiner	Art Unit	
	Sikha Roy	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 and 67-81 is/are pending in the application.
- 4a) Of the above claim(s) 42-66 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-41 and 69-71 is/are allowed.
- 6) ☒ Claim(s) 1-18, 67, 68 and 72-81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0105</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 24, 2005 has been entered.

Drawings

The drawing in Fig 1 is objected to because in the driver circuit portion the insulating layer on the first substrate labeled as 103 should be labeled as 114. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,2, 5-8, 67, 68, 72, 74,75 and 81 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,303,963 to Ohtani et al.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1 Ohtani discloses (column 24 lines 19-56, column 25 lines 1-15,29-54 Fig. 16B) an EL display device comprising a pixel portion comprising an interlayer insulating film (base film) 4021 over a first substrate 4010, first electrode (pixel

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electrode) 4027 formed over the first substrate 4010, a first insulating film 4028 formed so as to cover an end of the first electrode, a light-emitting organic compound film 4029 formed over the first electrode 4027 and in contact with a side face of the first insulating film, a second electrode 4030 formed over the light-emitting organic compound film 4029, a second insulating film 4026 formed over the interlayer insulating film 4021 and the periphery of the first substrate 4010 and surrounding the pixel portion, an adhesive layer 6004 formed on the second insulating film, a second substrate 6000 in contact with the adhesive layer and light-emitting element comprising the light-emitting organic compound film interposed between the first and second electrodes. Ohtani further discloses (column 25 lines 37,38) the first insulating film 4028 and second insulating film (insulating film 4026 along with the top portion) comprise same material.

Regarding claim 2 Ohtani discloses all the limitations same as claim 1.

Additionally Ohtani discloses (Fig. 16B) the second substrate 6000 provided so as to overlap the first and second insulating films and a gap between the first substrate 4010 and second substrate 6000 is filled with an adhesive layer 6004.

Referring to claims 5 and 6 Ohtani discloses a protection layer (passivation film) 6003 covering the second electrode 4030, the first insulating film 4028 and the second insulating film (insulating film 4026 along with the top portion).

Regarding claims 7 and 8 Ohtani discloses first substrate and second substrate made of glass.

Regarding claims 67 and 68 Ohtani discloses (column 31 lines 29-40, Figs. 11A to 11F) that this display devices can be incorporated into an electronic equipment selected from group consisting of video camera, cellular phone, portable computers.

Referring to claim 72 Ohtani discloses all the limitations which are same as claim 1 and additionally discloses (Figs. 16B column 24 lines 30-41) the second insulating film 4026 formed over the driver circuit 4022 and surrounding the pixel portion.

Claims 74,75 and 81 essentially recite the same limitations as of claims 5,7 and 67 respectively and hence are rejected for the same reasons (see rejections of claims 3,5 and 67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4, 11, 12, 17, 18, 73, 77 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,303,963 to Ohtani et al.

Regarding claims 3 and 4, Ohtani discloses the claimed invention except for the limitation of width of the second insulating film being between 100 to 5000µm. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re*

Aller, 105 USPQ 233. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the width of the second insulating film between 100 to 5000 μ m, since optimization of workable ranges is considered within the skill of the art.

Regarding claims 11 and 12, Ohtani discloses the claimed invention except for the limitation of thickness of the adhesive layer being between .05 to .5 μ m. It is to be noted that the thickness of the adhesive layer affects the viewing angle and hence the thickness of the adhesive layer must be such that lowering of light transmittance is prevented. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the thickness of the adhesive layer between .05 and .5 μ m, so that there is enhanced light transmittance with effective sealing of the display.

Regarding claims 17 and 18 Ohtani discloses the first insulating film which is of same material as the second insulating film made of resin.

Claims 17,18 differ from Ohtani in that Ohtani does not disclose the first insulating film comprising any one of polyimide resin, acrylic resin and polyamide resin film.

Ohtani discloses (column 8 lines 46-58) interlayer insulating film formed of organic resin film comprising polyimide, acryl, polyamide resins. Ohtani further discloses these organic resin films provide advantages such as simple film formation

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method, reduction of parasitic capacitance since relative dielectric constant is low and superior flatness.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the resin insulating film of Ohtani made of polyimide, acryl or polyamide organic resins for providing advantages such as simple film formation method, reduction of parasitic capacitance since relative dielectric constant is low and superior flatness.

Claims 73, 77 and 80 essentially recite the same limitations as of claims 3,11 and 17 respectively and hence are rejected for the same reasons (see rejection of claims 3,11 and 17).

Claims 9, 10 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,303,963 to Ohtani et al. and further in view of U.S. Patent 6,559,594 to Fukunaga et al.

Claims 9 and 10 differs from Ohtani in that Ohtani does not disclose the gap between the first substrate and the second substrate filled with an inactive gas or nitrogen.

Fukunaga in same field of endeavor discloses (Fig. 4D column 9 lines 1-10) the gap between the first and second substrates is filled with nitrogen gas or noble gas. It is further disclosed that this material (nitrogen gas) absorbs oxygen or moisture in the space thus providing a reliable light source.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to fill the gap between the first and second substrates of Ohtani with

nitrogen gas as suggested by Fukunaga for absorbing oxygen or moisture in the space and thus providing a reliable light source.

Claim 76 essentially recite the same limitation as of claim 9 and hence is rejected for the same reason.

Claims 13-16 and 78,79 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,303,963 to Ohtani et al. and further in view of U.S. Patent 6,380,672 to Yudasaka.

Referring to claims 13-16 Ohtani fails to disclose the first and second insulating films having thickness of 1.0 to 10 μ m.

Yudasaka in analogous art of active matrix display discloses (column 12 lines 35-52) the bank (first insulating film) has a thickness of 1 to 2 μ m. Yudasaka discloses that such a thick layer bank sufficiently functions as a barrier and defines the region that forms the organic semi-conductive film when the film is formed by a coating process.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to select the thickness of the first and second insulating films of Ohtani of 1 to 2 μ m as suggested by Yudasaka for functioning as barrier and defining the region for forming organic film in between.

Claims 78 and 79 essentially recite the same limitations as of claims 13 and 15 respectively and hence are rejected for the same reasons (see rejections of claims 13, 15).

Allowable Subject Matter

Claims 19-41 and 69-71 are allowed over the prior art of record.

The reasons for allowing claims 33-41 and 71 have already been cited by the examiner in the previous action.

Referring to claim 19 the prior art of record neither teaches nor suggests a display device having all the limitations as claimed in claim 19 and particularly the limitation comprising a second insulating film provided in convex manner on the upper face and in contact with a portion of the first insulating film.

Claims 31 and 69 are allowed because of their dependency status from claim 19.

Referring to claim 20 the prior art of record neither teaches nor suggests a display device having all the limitations as claimed in claim 20 and particularly the limitation comprising a third insulating film provided in convex manner on the upper face and in contact with a portion of the first insulating film.

Claims 21-30,32 and 70 are allowed because of their dependency status from claim 20.

Response to Arguments

Applicant's arguments filed December 2, 2004 regarding claims 1,2 and 72 have been fully considered but they are not persuasive.

In response to Applicants' argument, that Ohtani does not disclose or suggest the interlayer insulating film and the positions of the interlayer insulating film, first insulating film and second insulating film surrounding the pixel portion the Examiner

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respectfully disagrees. Ohtani discloses (Fig. 1A column 4 lines 42-52) a first interlayer insulating film (silicon oxide film, base film) 11 formed over the first substrate 10. In Fig. 16B this interlayer insulating film (base film) is 4021 and the first insulating film 4028 is formed over the interlayer insulating film and the second insulating film 4026 is formed over the interlayer insulating film 4021 and the periphery of the first substrate, surrounding the pixel portion (extending around the margin or edge of the pixel).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.R.

Sikha Roy
Patent Examiner
Art Unit 2879


NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800